DR. BELLER: Denis Beller.

MODERATOR BROWN: I'm sorry. Denis Beller.

DR. BELLER: Good afternoon, ladies and gentlemen. I'm Dr. Denis Beller from UNLV. I'm here today to present the statement of Professor Per Peterson, a long-time Nevada resident who resides in California. Dr. Peterson requested that I read from the comments that he submitted on September 5th after carefully reviewing the PSSE and the Science and Engineering Report.

Dr. Peterson grew up in Las Vegas and he was educated in Nevada, from elementary school here through his Mechanical Engineer degree at the University of Nevada-Reno. He earned his Doctorate from the University of California at Berkeley, one of the most prestigious and environmentally and socially conscious universities in the nation. Dr. Peterson's expertise is in the areas of heat and mass transport, the primary processes that govern the performance of geologic repositories. He was a Presidential Young Investigator of the National Science Foundation there from 1990 to 1995, and he currently serves as a Professor and the

25 Chair of in their Department of Nuclear Engineering.

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1 Dr. Peterson's review of the Preliminary Site
2 Suitability Evaluation, which focused primarily on the
3 engineered barrier system, can be summarized as
4 follows:
5 The current engineered barrier system applies
6 the well-established safety design principles that have
7 been widely used for design licensing of aircraft,
8 skyscrapers, and nuclear reactors. Multiple,
9 independent and diverse barriers have been used in the
10 Yucca Mountain engineered-barrier system design so that
11 the failure of any individual barrier will not degrade
12 total performance.
13 I add that this same design philosophy let
14 the World Trade Center remain standing long enough for
15 about 20,000 people to escape on September 11th.
16 Dr. Peterson continues: The multiple-barrier
17 approach of the Yucca Mountain Project includes a
18 highly corrosion-resistant canister material that is
19 predicted to have small to negligible corrosion over
20 tens of thousands of years. The design also uses a
21 titanium drip shield -- another highly

22 corrosion-resistant material -- to prevent any contact
23 of water with the canister. Thus even when analyses
24 assume an unanticipated, non-mechanistic failure of a
25 barriers, the system still achieves the same overall

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1 safe performance.
2 Thus one of Dr. Peterson's primary
3 conclusions is: The current repository design is
4 likely to be successful in meeting the applicable
5 radiation protection standards established by the EPA
6 and the NRC and that the engineered-barrier system can
7 meet the required licensing criteria by large margins.
8 Dr. Peterson also provided a comparison
9 between the Yucca Mountain site and other geologic
10 media being considered by various international
11 repository-research programs, so that such a comparison
12 is included as a part of the public record for the
13 decision-making process.
14 He said, with a large and diverse array of
15 geologic settings, the United States had the unique
16 opportunity to identify a potential repository site
17 that is located above the water level in unsaturated
18 hard-rock media. Other international repository

programs have adopted safety design principles similar to those of the Yucca Mountain design, but they have focused on saturated media which require that the waste be embedded and sealed into small bore-holes. Conversely, the placement of waste in open tunnels in Yucca Mountain provides a unique flexibility because it will be easy to move and rearrange waste canisters, or

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to retrieve and use this material, or to select alternative disposal methods in the future.

These features that are unique to unsaturated geologic media, as at Yucca Mountain, should be given special consideration.

In addition, because the tunnels at Yucca Mountain are drilled into hard, stable rock, decisions to close the repository can be delayed indefinitely, which will actually minimize the burden on future generations to manage this waste.

If the Yucca Mountain Suitability Decision is negative, the United States must then site a repository and alternative geologic media, different from the unsaturated tuff found at Yucca Mountain. This would be a negative legacy for future generations of

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Americans.

He concludes his letter with the following statement: "The Yucca Mountain Preliminary Site Suitability Decision report gives strong evidence that, with the current design of engineered barriers, Yucca Mountain can be licensed to meet the radiation standards established by the EPA and NRC. The site is unique upon possible geologic media for the flexibility it provides for future generations to make their own decisions about the management of these nuclear wastes,

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while minimizing the burdens our generation will place on these future generations. I support a positive site suitability decision."

Signed, Professor Per F. Peterson, Professor and Chair, Department of Nuclear Engineering, University of California, Berkeley.